RESPIROMETRIC Sensor

BOD and Respirometers

Versatile, compact and reliable solution for Aerobic and Anaerobic Respiration Tests.

velp®

Driven by curiosity

RESPIROMETRIC Sensor

The RESPIROMETRIC Sensor is designed to perform multiple respiration and degradation tests in a wide range of application, such as Biochemical Oxygen Demand (BOD), Biochemical Methane Potential (BMP), Soil respiration test, Plastic Biodegradability test and more.

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Versatile and Precise

- Velp RESPIROMETRIC Sensor is able to perform any kind of respirometric studies thanks to its powerful pressure sensor reading results in the range of 500 ÷ 2000 mbar (hPa)
- It is possible to perform Aerobic and Anaerobic tests with the same Sensor by choosing the proper System
- The RESPIROMETRIC Sensor allows results reading on display and through the software in BOD, BMP and Pressure values.

Unique Wireless Control

- The RESPIROMETRIC Sensor transmits data directly to the PC enabling real-time monitoring of the analysis curve
- Respirometric studies can last days and even months, the Velp solution ensures constant monitoring of multiple analysis from an intuitive proprietary software, RESPIROSoft™

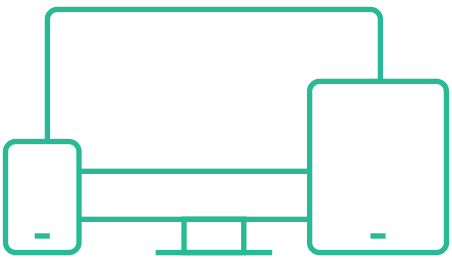
Comprehensive and Compact

- Velp RESPIROMETRIC Sensor Systems come with all the required accessories to be operational right from the start
- Different sizes and types of bottles and stirring stations to match any application requirement
- The space-saving design of the systems maximize the number of sensors fitting inside the incubator

Scalable and Cloud Enabled

- Wireless transmission of the RESPIROMETRIC Sensor measurment to the DataBox™ that is able to store data of up to 400 sensors, 66 systems
- Thanks to the Wi-Fi module the DataBox™ sends the data to the Velp Ermes cloud platform ensuring revolutionary lab experience
- Both Velp Respirometric Sensor and FOC Connect Incubator can be monitored and controlled from Velp Ermes for a total control of the analyses

Velp Ermes Connection



Connect the BOD Respirometer to the exclusive Velp Ermes Cloud Platform to improve your laboratory experience. The Velp Ermes Cloud Platform connection will unburden you from tedious tasks improving your lab productivity.

- Enhanced service support
- Real time monitor and control of the instrument from PC, smartphone and tablet whenever you want, wherever you are
- Immediate alert and notification with the possibility to stop the instrument for maximum safety
- Regular software updates will guarantee the best performance and new features with just one-click

RESPIROMETRIC Sensor System BOD

The RESPIROMETRIC Sensor System is designed to be a versatile solution with minimum footprint for aerobic degradation tests for industrial and domestic water quality testing.

- Ideal for: BOD5, BOD7, BOD Ultimate, Assessment of disinfection on BOD
- BOD scales: 90, 250, 600, 999, 4000 (higher values after dilution)
- Biodegradation of monomers application to study the microbial activities involved in the production plastics
- Results reading in Pressure (millibar) and BOD (mg/l).

Included in the system: Stirring station, 500 ml amber bottles, KOH containers, stirring bars, DataBox™ and RESPIROSoft™ software.

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RESPIROMETRIC Sensor System Maxi - BMP

The RESPIROMETRIC Sensor System Maxi is designed to support anaerobic respiration studies to determine the Biochemical Methane Potential (BMP) of biomass. The BMP analysis studies the production of biogas from organic wastes mainly for waste and wastewater treatment and for renewable energy production.

- Results reading in Pressure (millibar) and automatic conversion in BMP value ($NmLCH_4/gSV$)
- The system is suitable also for other anaerobic studies such as Denitrification Tests (Requires 6 Denitrification glass bottles A00000410)

Included in the system: Maxi stirring station, 1000 ml bottles, KOH containers, stirring bars, DataBox™ and RESPIROSoft™ software.

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RESPIROMETRIC Plastic Biodegradability

The RESPIROMETRIC Sensor System for plastic biodegradability is designed to support aerobic degradation test for the determination of the degree of aerobic biodegradability of plastic materials, including those containing formulation additives, in an aqueous medium.

- Multistirrer Digital 6-positions to precisely set stirring speed and enable the lock feature to avoid unintentional modification of the stirring speed
- Results reading in Pressure values (millibar)

Included in the system: Multistirrer Digital 6-positions, 6 Kits plastic biodegradability analysis, stirring bars, DataBox™ and RESPIROSoft™ software.

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RESPIROMETRIC Soil Analysis

The RESPIROMETRIC Sensor System for soil analysis is designed to support aerobic degradation tests on soil and compost. The analysis provides microbial soil respiration results from the mineralization of organic substances.
A major application of these test is related to the detection and monitoring processes during decontaminations and clean-ups.

- The analysis is carried out directly on soil/compost in the 1000ml flask.
- Results reading in Pressure values (millibar).

Included in the system: 6 Kits soil analysis, DataBox™ and RESPIROSoft™ software.

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Instrument - Code

RESPIROMETRIC Sensor System 6	230 V / 50-60 Hz	**SA10200146**
RESPIROMETRIC Sensor System 6	115 V / 60 Hz	**SA10210146**
RESPIROMETRIC Sensor System 6 no Databox™	230 V / 50-60 Hz	**SB10200146**
RESPIROMETRIC Sensor System 6 no Databox™	115 V / 60 Hz	**SB10210146**
RESPIROMETRIC Sensor System 6 Maxi	230 V / 50-60 Hz	**SA10200156**
RESPIROMETRIC Sensor System 6 Maxi	115 V / 60 Hz	**SA10210156**
RESPIROMETRIC Sensor System 6 Maxi no Databox™	230 V / 50-60 Hz	**SB10200156**
RESPIROMETRIC Sensor System 6 Maxi no Databox™	115 V / 60 Hz	**SB10210156**
RESPIROMETRIC Sensor System for Plastic Biodegradability	100-240 V / 50-60Hz	**SA102A0166**
RESPIROMETRIC Sensor System for Plastic Biodegradability no Databox™	100-240 V / 50-60Hz	**SB102A0166**
RESPIROMETRIC Sensor System for Soil Analysis	-	**SA102B0176**
RESPIROMETRIC Sensor System for Soil Analysis no Databox™	-	**SB102B0176**

Optional Accessories

Multi-socket extension cable EU	**A00000436**
Multi-socket extension cable UK	**A00000371**
Multi-socket extension cable AU	**A00000443**
USA plug for power supply	**A00000444**
UK plug for power supply	**A00000435**
AU plug for power supply	**A00000445**
Velp Ermes 1 Year Connection	**E00010012**
Velp Ermes 3 Year Connection	**E00010036**

Testing Accessories

A00000135
Sensor check

A00000136
Control Test tablets

Bottles & Kits

A00000419
Kit plastic biodegradability analysis

A00000418
Kit Soil Analysis

A00000410
Denitrification glass bottle

Wireless Databox™

The Velp DataBox™ is included in the Systems together with the RESPIROSoft™ Software and enables wireless data transmission from the RESPIROMETRIC Sensor to the PC. The DataBox™ store results for up to 400 RESPIROMETRIC Sensors (66 systems).

The DataBox™ comes with an integrated Wi-Fi module to transmit data from the sensors to the Velp ERMES Cloud Platform. It is also possible to connect the DataBox™ to a plug and send the data to Velp Ermes without the need to connect it to the PC (after starting the analysis from the software).

RESPIROSoft™ Software

The RESPIROMETRIC Sensor comes with the proprietary software RESPIROSoft™ designed to operate with the new sensors. RESPIROSoft™ is extremely intuitive and easy to use providing all the important information of the analysis and the sensors batteries status in one window.

- Real-time analysis curve (BOD, Pressure)
- Most important info clearly displayed at a glance
- Sensors batteries status monitoring
- Preinstalled methods
- Customized test reports
- Results comparison

Sampling time:

- From 30m to 48h, depending on the test duration

Measuring period:

- From 1 to 730 days

Technical Data

	RESPIROMETRIC Sensor
Number of sensors per system	6
Sensor display	4-digit LED display
Measurement	Electronic pressure sensor
Test typology	BOD (mg/l), BMP (NmLCH_4/gSV), PRESSURE (millibar)
Pressure range	500 ÷ 2000 mbar (hPa)
Bod scales	90, 250, 600, 999, 4000 ppm, higher values after dilution
Bottle volumes	500 ml and 1000 ml
Databox sensor capacity	Up to 400 RESPIROMETRIC Sensors
Databox power supply	USB / Plug
Connectivity	RESPIROSoft™ via USB / Ermes via Wi-FI
Sampling time	From 30m to 48h, depending on the test duration
Measuring period	From 1 to 730 days
Data storage	On Sensor, RESPIROSoft™ Database, Ermes Cloud
Sensor construction material	Technopolymer
Sensor dimensions (WXHXD)	50x70x70 mm (Sensor)
Sensor power	2 W
Sensor battery type	CR 2430
Stirring station power supply	Stirring Station: 230 V / 50-60 Hz or 115 V / 60 Hz Stirring Station Maxi: 230 V / 50-60 Hz or 115 V / 60 Hz Multistirrer Digital 6: 100-240 V / 50-60 Hz
Stirring station dimensions (WXHXD)	Stirring Station: 270x300x185 mm Stirring Station Maxi: 432x300x165 mm Multistirrer Digital 6: 230x51.5x370 mm
Weight	Sensor: 80 g Stirring Station: 1 Kg Stirring Station Maxi: 3 Kg Multistirrer Digital 6: 1,75 Kg
Safety class	IEC/EN61010-1
Sensor protection degree	IP 54-EN 60529

Service & Support

Velp products are designed by our engineers to resist years of laboratory use.

Our products are manufactured with premium materials to guarantee the best performance with maximum safety.

According to our experience, a proper and regular maintenance is necessary to ensure the highest performance of analytical instrument. Velp Service Department and Velp Official Partners are always ready to offer you maintenance and service support tailored to your needs.

Get the support you need choosing the options:

- Help-desk and Remote support
- Technical Assistance
- Analytical Support

We reserve the right to make technical alterations
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Rev 5.09.2025